



GP 2823

#7B
5/26/2000
amw

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kie Y. Ahn et al.
Title: BIPOLAR TRANSISTORS WITH LOW-RESISTANCE EMITTER CONTACTS
Docket No.: 303.466US1
Filed: April 29, 1998
Examiner: W. David Coleman
Serial No.: 09/069,668
Due Date: May 3, 2000
Group Art Unit: 2823

Assistant Commissioner for Patents
Washington, D.C. 20231

We are transmitting herewith the following attached items (as indicated with an "X"):

- X A return postcard.
X An Amendment and Response (7 Pages).

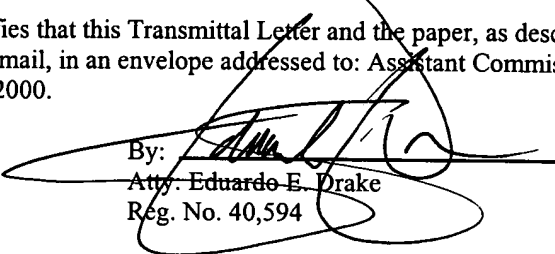
If an additional fee is required due to changes to the claims, the fee has been calculated as follows:

CLAIMS AS AMENDED						
	(1) Claims Remaining After Amendment		(2) Highest Number Previously Paid For	(3) Present Extra	Rate	Fee
TOTAL CLAIMS	38	-	31	7	x 18 =	\$126.00
INDEPENDENT CLAIMS	11	-	8	3	x 78 =	\$234.00
[] MULTIPLE DEPENDENT CLAIMS PRESENTED						\$0.00
TOTAL						\$360.00

Please charge the required fee of \$360.00 to Deposit Account No. 19-0743.

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described above, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on this 3rd day of May, 2000.

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938, Minneapolis, MN 55402 (612-373-6900)

By: 
Atty. Eduardo E. Drake
Reg. No. 40,594

Customer Number **21186**

(GENERAL)

RECEIVED

MAY 15 2000

TECHNOLOGY CENTER 2800

S/N 09/069,668

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kie Y. Ahn et al.

Serial No.: 09/069,668

Filed: April 29, 1998

Title: BIPOLAR TRANSISTORS WITH LOW-RESISTANCE EMITTER CONTACTS

Examiner: W. David Coleman

Group Art Unit: 2823

Docket: 303.466US1



AMENDMENT AND RESPONSE

Assistant Commissioner for Patents
Washington, D.C. 20231

Applicant has reviewed the Office Action mailed February 3, 2000. Please amend the application as follows:

IN THE CLAIMS

Please amend claims 1, 12, 18, 20, 23, 24, and 28 as follows:

1. (Amended) A method of making an emitter contact for an emitter region of a bipolar transistor, the method comprising:
forming a polysilicon structure [on] **over** an emitter region position **of a semiconductive substrate, the substrate having a surface at the emitter region position;** and substituting metal for at least a portion of the polysilicon structure **to produce a metal emitter contact entirely above the surface of the substrate at the emitter region position.**

12. (Amended) A method of making an emitter contact for a bipolar transistor, the method comprising:

forming a polysilicon structure on [a layer] **an active region** of the transistor, the polysilicon structure including:
a diffusion barrier layer on the [layer] **active region;** and
a polysilicon layer on the diffusion barrier layer; and
substituting metal for at least a portion of the polysilicon layer.

RECEIVED

MAY 15 2000

U.S. PATENT & TRADEMARK OFFICE

18. (Amended) A method of making an emitter contact for a bipolar transistor, the method comprising:

05/11/2000 SSAHDARA 00000090 190743 09069,668

01 FC:103 126.00 CH

02 FC:102 234.00 CH